

# REGIONAL TRANSIT ISSUE PAPER

Agenda Item No.	Board Meeting Date	Open/Closed Session	Information/Action Item	Issue Date
13	02/14/11	Open	Information	01/31/11

Subject: Ridership Update

## ISSUE

Update on bus and light rail ridership trends since June 2010 service reductions.

## RECOMMENDED ACTION

None. This item is for informational purposes only.

## FISCAL IMPACT

None. This item is for informational purposes only.

## DISCUSSION

On June 20, 2010, RT implemented service reductions amounting to 20 percent of all bus service and 16 percent of all light rail service, including the elimination of all bus and light rail trips starting at 9:00 p.m. or later, lengthening of weekend headways on light rail from 15 to 30 minutes, and the complete elimination of 27 bus routes.

Original forecasts for Fiscal Year 2011 were for 28.8 million total boardings. However, through the first six months of FY 2011, ridership is on pace to reach an estimated 27 million boardings. Compared to the total of 33,059,520 for Fiscal Year 2010, this will be a drop of 18 percent, worse than originally expected, but still comparable to the size of the service reduction.

The attached report reviews ridership trends and examines potential causes. With the Comprehensive Operational Analysis (COA) beginning in early February, this report will also be used as an input in the system evaluation process.

---

Approved:

Presented:

FINAL 2/8/11

General Manager/CEO

Tom Quigley, Director of Planning

C:\Temp\BCL Technologies\NitroPDF6\@BCL@200FE2EB\@BCL@200FE2EB.doc

# Ridership Update

February 14, 2011

On June 20, 2010, RT implemented service reductions amounting to 20 percent of all bus service and 16 percent of all light rail service,<sup>1</sup> including the elimination of all bus and light rail trips starting at 9:00 p.m. or later, lengthening of weekend headways on light rail from 15 to 30 minutes, and the complete elimination of 27 bus routes.

Original forecasts for Fiscal Year 2011 were for 28.8 million total boardings. However, through the first six months of FY 2011, ridership is on pace to reach an estimated 27 million boardings. Compared to last year's total of 33,059,520, this will be a drop of 18 percent, worse than originally expected, but still comparable to the size of the service reduction.

This report reviews ridership trends and examines potential causes. With the Comprehensive Operational Analysis (COA) beginning in early February, this report will also be used as an input in the system evaluation process.

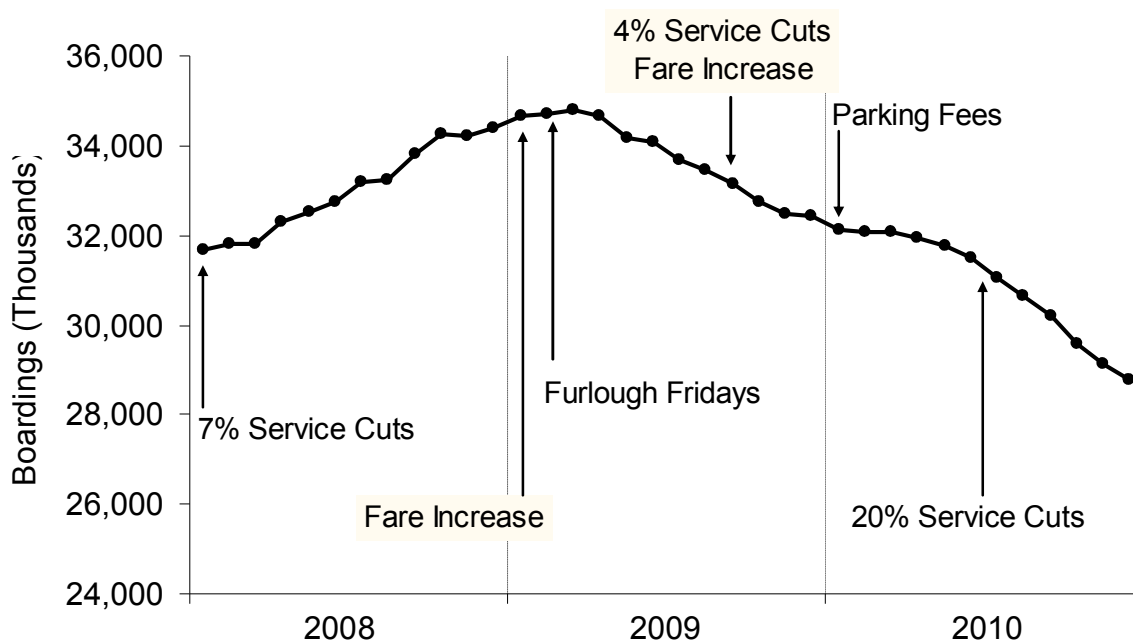
---

<sup>1</sup> Light rail train-hours were reduced by 16 percent. Light rail vehicle revenue hours, which count all cars in multi-car trains, were only reduced by 11 percent.

### Ridership Trends Since 2008

Despite a 7 percent service reduction in January, ridership rose to an all-time high in 2008, as shown in Figure 1. California gas prices began 2008 at \$3.30 and rose to over \$4.00 by June, where they remained for three months. Major construction on Interstate 5 also prompted an unprecedented amount of pro-transit promotional activity from employers and the media.

Figure 1  
12-Month Ridership Totals Since 2008



Ridership began to decline in 2009 after a \$0.25 fare increase in January and after Furlough Fridays began in February.<sup>2</sup> In September 2009, fares were increased another \$0.25, an additional 4 percent of bus service was eliminated, and several discount pass programs were discontinued;<sup>3</sup> however, the rate of decline did not change substantially. By early 2010, annual ridership appeared to be stabilizing slightly below 32 million boardings, approximately where it began in 2008.

<sup>2</sup> The combination of the fare increase and Furlough Fridays was particularly detrimental to monthly pass sales. Prior to the fare increase, most government employees had been accustomed to paying only \$21.25 for a monthly pass, due to a 75 percent employer subsidy. This subsidy, however, has a federal limit of \$65.00. Consequently, for most government employees, the effective monthly pass price increased 65 percent, from \$21.25 to \$35.00. With government employees working only 17-18 days per month, many monthly pass users began to purchase single ride and daily pass ticket books instead.

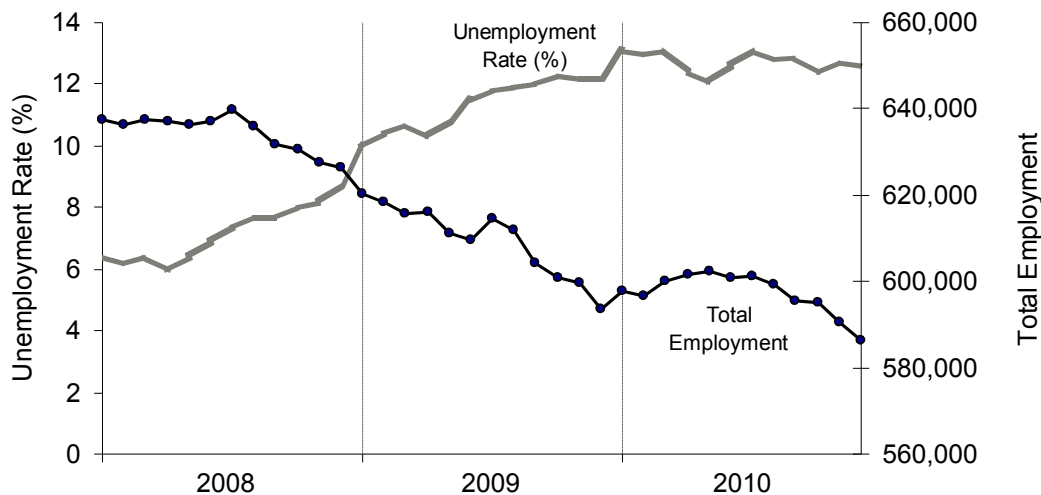
<sup>3</sup> Changes to the fare structure included elimination of transfers, elimination of Central City Fare, elimination of the half-price policy on Neighborhood Ride routes, and discontinuation of the Lifetime Pass (existing Lifetime Passes are still honored).

### Ridership Expectations for 2010

Ridership began declining abruptly in mid-2010, immediately after service cuts were implemented, as shown in Figure 1. Based on the abruptness of this change, it is estimated that most of the ridership loss in the latter half of 2010 was caused by the service cuts and that other factors have played only a minor role.

- As of September 2010, the fare structure and level of service are now the same on a year-over-year basis, except for the June 2010 service cuts.
- Total employment in Sacramento County declined in 2010 (see Figure 2); however, Furlough Fridays were eliminated in October 2010. While the net impact is uncertain, these two factors are assumed to offset one another.
- California gas prices have been stable at approximately \$3.00 per gallon since mid-2009.<sup>4</sup>
- The impact of parking fees at light rail stations is not certain, but there is no evidence that it has been severe.<sup>5</sup>

Figure 2  
Sacramento County Employment Trends<sup>6</sup>



<sup>4</sup> Source: U.S. Energy Information Administration.

<sup>5</sup> Ridership has decreased at light rail stations with parking fees, but not disproportionately compared to stations with free parking.

<sup>6</sup> Source: California Employment Development Department.

---

**Ridership Trends by Mode  
Bus and Light Rail**

Despite service reductions of 20 percent on bus, bus ridership has decreased only 11 percent compared to last year and is actually exceeding forecasts. Light rail ridership, on the other hand, has decreased 23 percent compared to last year, even though service was reduced by only 16 percent (and only 7 percent on weekdays). Table 1 summarizes the changes in ridership by mode since service reductions were implemented.

Table 1  
Ridership Trends by Mode  
Since June 20, 2010 Service Reductions

Mode	Reduction in Service	Reduction in Ridership
Bus	-20%	-11%
Light Rail	-16%	-23%
Total		-17%

Service levels are measured in vehicle revenue hours on bus and train revenue hours on light rail. Due to the greater capacity of a light rail train versus a bus, these two measures cannot be added together. However, RT's systemwide ridership is split approximately 50/50 between bus and light rail.

### Light Rail Ridership by Time of Day

Overall, light rail ridership has decreased 23 percent. Morning ridership has been minimally affected, while all other time periods have been significantly affected, with mid-day and afternoon ridership decreasing approximately 20 percent, and evening<sup>7</sup> ridership decreasing more than 50 percent, as shown in Table 2.

Table 2  
Change in Light Rail Ridership  
Before and After June 20, 2010 Service Reductions

Time Period	Average Weekday Ridership		Percent Change
	Before	After	
Morning (6:00 - 9:00 a.m.)	10,311	10,105	-2%
Mid-Day (9:00 - 3:30 p.m.)	22,482	17,982	-20%
Afternoon (3:30 - 6:00 p.m.)	11,706	9,552	-18%
Evening (After 6:00 p.m.)	10,241	4,983	-51%
<b>TOTAL</b>	<b>54,740</b>	<b>42,623</b>	<b>-22%</b>

Before and After periods correspond to the six-month period from July through December in 2009 and 2010, respectively. Evening period also includes a small number of early morning trips starting before 6:00 a.m.

<sup>7</sup> Evenings are defined as trips starting after 6:00 p.m. or before 6:00 a.m.

**Light Rail Ridership  
by Time of Day  
(cont.)**

Not only has evening service been the most severely impacted, but it is also the largest contributor to total ridership loss. Total daily light rail ridership declined from 54,740 to 42,623, a decline of approximately 12,000 daily boardings. Over 43 percent of this ridership loss has come from evening service, as shown in Table 3.

Table 3  
Ridership Loss on Light Rail by Time Period

Time Period	Ridership Loss	Percent of Total Ridership Loss
AM Peak (6:00 - 9:00 a.m.)	206	2%
Mid-Day (9:00 - 3:30 p.m.)	4,500	37%
PM Peak (3:30 - 6:00 p.m.)	2,153	18%
Evening (After 6:00 p.m.)	5,258	43%
<b>TOTAL</b>	<b>12,117</b>	

For the six-month period ending 12/31/10, average weekday ridership declined by 12,117, from 58,500 to 43,500, compared to the same period one year earlier. Evening period also includes a small number of early morning trips starting before 6:00 a.m.

---

## Light Rail Ridership by Line and Station

Weekday ridership loss has been similar on the Gold and Blue lines at 21 and 23 percent, respectively; however, ridership trends have varied by station and area.

Student-oriented stations fared above average:

- Ridership decreased only 12 percent at City College, despite connecting Routes 63 and 83 being eliminated. Ridership decreased only 13 percent at 4th Avenue/Wayne Hultgren, and only 14 percent at University/65th Street.

Commuter-oriented stations fared average or better:

- Ridership decreased only 16 percent at Folsom stations.<sup>8</sup> Since these stations have never had evening service or feeder buses,<sup>9</sup> there has been no major change in service at these stations. Ridership may still have been impacted by the decline in total employment.
- Ridership decreased 19 percent at Watt/I-80 corridor Park-and-Ride stations.<sup>10</sup> These stations have been more impacted due to the elimination of peak-hour feeder Routes 100, 101, 102, 104, 106, and 107 and the implementation of \$1.00 parking fees in January 2010.
- Ridership decreased 20 percent at South Line Park-and-Ride stations.<sup>11</sup> These stations, however, serve a broader variety of markets, including commuters, students, and transit-dependent riders. The elimination of Routes 4 and 63 may have contributed to ridership loss.

Stations without significant student or commuter activity fared below average:

- Ridership decreased 31 percent at Arden/Del Paso station, which is one of RT's busiest stations, but which has minimal commuter and student ridership. Ridership decreased 26 percent at Alkali Flat/La Valentina, which also has minimal commuter and student ridership.

---

<sup>8</sup> Folsom stations include Hazel, Iron Point, Glenn, and Historic Folsom.

<sup>9</sup> RT does not provide any feeder bus service to the Folsom stations; however, Folsom Stage Line Route 10 serves the Iron Point and Historic Folsom stations.

<sup>10</sup> For the purpose of this analysis, Watt/I-80 PNR stations include Watt West, Roseville Road, Marconi/Arcade, and Swanston. Watt/I-80 and Arden/Del Paso have been excluded from this group due to the limited number of parking spaces and the substantial amount of non-commute ridership activity at these stations.

<sup>11</sup> South Line Park-and-Ride stations include 47th Avenue, Florin, and Meadowview.

---



---

### **Light Rail Ridership by Line and Station (cont.)**

Downtown stations were the least affected:

- Ridership decreased only 9 percent in the Central Business District<sup>12</sup> (CBD) and has increased 2 percent in the “South CBD” stations (8th & O and Archives Plaza).

Ridership trends varied at stations and areas serving mixed markets:

- Ridership decreased 20 percent at 16th Street station. 16th Street station is RT’s busiest light rail station; however, most passenger activity consists of transfers between the two light rail lines.
- Ridership decreased only 13 percent at 29th Street station, which serves a variety of markets including visitors to the Sacramento County Department of Human Assistance (DHA), transfers to and from several major bus routes, and commuters working in nearby office buildings.
- Ridership decreased over 20 percent at three of the Rancho Cordova stations (Mather, Cordova Town Center, and Sunrise) but only 13 percent at Zinfandel. This may be the result of Route 28 being realigned to terminate at Zinfandel/Cordova Town Center rather than at Mather. The elimination of Route 73 - White Rock may have also impacted ridership at Mather and Sunrise.
- Ridership decreased 18 percent overall at Rosemont/La Riviera stations, although, the College Greens and Starfire stations were less affected.<sup>13</sup> Major destinations near College Greens and Starfire include a Raley’s grocery store and a Social Security office on Folsom Boulevard, as well as a transfer point to Routes 80 and 84, which serve Watt Avenue.

---

<sup>12</sup> CBD stations include 7th & K, 8th & K, 9th & K, 11th & K, 7th & I, 7th & Capitol, and 8th & Capitol.

<sup>13</sup> Rosemont/La Riviera stations include Power inn, College Greens, Watt/Manlove, Starfire, Tiber, and Butterfield.

---

## Weekend Light Rail Ridership

As part of the June 2010 service reductions, weekend light rail headways were lengthened from 15 to 30 minutes, and service after 9:00 p.m. was eliminated. Through December 2010, ridership decreased 30 percent, compared to 2009. This is a significant loss, however, it is within expectations, considering 40 percent of service was eliminated.<sup>14</sup>

Total ridership loss from weekend light rail service has been over 325,000 boardings through the first six months of FY 2011. This amounts to almost 12 percent of RT's total ridership loss of 2.7 million for the same period.

## Bus Ridership

This section summarizes trends in bus ridership and productivity. Productivity is measured in passengers per hour.<sup>15</sup> In general, a route with fewer than 20 passengers per hour would be considered lower-productivity, and a route with more than 40 passengers per hour could probably support additional service and is probably in need of additional service to relieve overcrowding and schedule adherence problems.

- When evening service is eliminated, productivity tends to remain approximately the same. Evening trips tend to have lower ridership, but when evening trips are eliminated, there tends to be ridership loss on earlier trips in the schedule, due to the lack of a return trip. Overall, the result when evening service is reduced is that total productivity for the route tends to remain approximately the same.
- When headways are lengthened, total ridership tends to decrease, but productivity tends to increase. For example, on Route 1 - Greenback, headways were lengthened from 15 to 20 minutes, revenue hours went from 103 to 75 hours per day, a 28 percent decrease, while ridership went from 3,030 to 2,890, a decrease of only 5 percent.
- Ridership has increased on some routes, in some cases, despite reduced service. This can happen when a route captures riders from a nearby route that was eliminated. For this reason, where appropriate, routes in a common corridor or vicinity are evaluated as a group rather than individually.

---

<sup>14</sup> Since early morning and late night service was already at 30 minute headways, and since the eliminated trips on the Gold Line were all shorter trips going only to Sunrise (as opposed to the longer Folsom trip), the total reduction in train-hours of service was actually only 40 percent, as opposed to 50 percent, as one might expect from doubling headways.

<sup>15</sup> Passengers per hour is technically boardings per vehicle revenue hour.

---

### **Bus Ridership (cont.)**

As seen in Table 1, total bus ridership decreased by only 11 percent despite a 20 percent service reduction. Some routes have performed better than others, however, as summarized in the following section. Ridership statistics for every route are attached to this report.

- **Route 1 - Greenback.** As mentioned above, revenue hours were reduced by 28 percent, but ridership decreased by only 5 percent. Passengers per hour have gone from 29.3 to 38.6, which has led to increased complaints about crowding and schedule adherence. Running time and recovery time are being increased in April, on a cost-neutral basis.
- **Route 11 - Truxel.** Due to a detour in place since August, no ridership data is available from Automatic Passenger Counters (APCs); however farebox returns indicate lower ridership, which may also be a result of the detour.
- **Route 16 - Norwood.** Ridership decreased 30 percent, from 180 to 130 daily boardings, due to trip cancellations caused by a driver shortage in the Community Bus Service (CBS) division in Summer 2010. The elimination of Route 18 - Bell Avenue may also be a factor, as there was significant transferring between the two routes. Ridership on Route 14, which also serves Norwood Avenue, also decreased 14 percent, so the ridership loss on Route 16 cannot be attributed to Route 14 capturing riders from Route 16.
- **Routes 20, 22, 23, 25 - Arden/Arcade.** Total revenue hours were reduced by 9 percent. Route 20 - Cottage was completely eliminated and three evening trips were eliminated on Route 23 - El Camino. Nevertheless, total ridership for the group decreased by only 1 percent, from 3,700 to 3,660. Productivity for the group increased from 25.8 to 28.0 passengers per hour. These routes may, however, be capturing former riders from Routes 9 and 10, which served Carmichael and carried 220 daily passengers before they were eliminated. If Routes 9 and 10 were included in the group, the total ridership loss would be over 6 percent.

**Route 28 - Fair Oaks.** This route was shortened with the southern terminal being relocated from Butterfield light rail station to Cordova Town Center. While this reduced revenue hours by 38 percent, ridership unfortunately decreased 57 percent, from 550 to 240 daily passengers. Passengers per hour went from 16.7 to 9.8. The segment of Route 28 that was eliminated served Folsom Boulevard between the Butterfield and Mather light rail stations, which are over two miles apart. Popular destinations along this segment of Folsom Boulevard include a DHA office, a branch of the Sacramento County Public Library, several

---

check cashing stores, and several apartment complexes. Ridership has also decreased at the Butterfield and Mather light rail stations; however, ridership may be down at these stations for other reasons as well, such as the elimination of Route 73, which served the Mather light rail station.

- Routes 33 - Dos Rios. Ridership has been hurt by trip cancellations (due to the aforementioned driver shortage at CBS) and multiple construction detours.
- Route 34 - McKinley and Route 38 - P/Q/Broadway. Both routes travel east/west from Downtown Sacramento to University/65<sup>th</sup> Street station. Headways were lengthened on both routes from 30 to 60 minutes. Ridership impacts, however, have differed. On Route 34, revenue hours were reduced by 40 percent and ridership decreased 40 percent as well, from 670 to 410 daily boardings. On Route 38, revenue hours were reduced by almost 40 percent as well, yet ridership decreased only 20 percent, from 1,070 to 850 daily boardings. This may be the result of differing elasticities. Route 34 serves more choice riders, whereas Route 38 serves more captive (transit-dependent) riders. Route 38 may also be capturing former riders of Route 36 – Folsom Boulevard, which had 260 daily boardings before it was eliminated in June 2010 or from Route 50E – Stockton Boulevard, which had 625 daily boardings, and which overlaid Route 38 on P and Q Streets as well as on Broadway.
- Routes 50E and 51 - Stockton Blvd. Route 51, which serves Stockton Boulevard and Broadway, from Florin Mall to Downtown Sacramento, has consistently been RT's highest ridership bus route, and one of only four routes with 15 minute headways.<sup>16</sup> Prior to elimination in June 2010, Route 50E was a limited-stop route with 30 minute headways that overlaid Route 51 on Stockton Boulevard and Route 38 on P and Q Streets. Combined ridership on Routes 50E and 51 was 4,660 daily boardings. Route 51 alone now has 4,200 daily boardings, a decline of 10 percent. Daily revenue hours, however, have been reduced by 33 percent, from 148.7 revenue hours for both routes to 100.1 revenue hours for Route 51 alone. Productivity has increased from 31.3 passengers per hour for Route 50E and 51 combined to 41.9 passengers per hour on Route 51 alone.<sup>17</sup> Complaints have increased about late buses, overcrowding, and passengers being passed-up due to full buses. Headways could be improved on Route 51 from 15 to 10 minutes, although the cost would be significant.<sup>18</sup> Restoring Route 50E would entail the same high cost, but based on past ridership, would not carry as many passengers or completely alleviate problems on Route 51.

---

<sup>16</sup> Since Route 1 - Greenback was changed from 15 to 30 minute headways, there are now only three routes with 15 minute headways, Route 30/31 - J Street, Route 51, and Route 81 - Florin Road/65th Street.

<sup>17</sup> Productivity on Route 51 alone was 37.7 before Route 50E was eliminated.

<sup>18</sup> A minimum of three additional buses in service would be required to improve headways on Route 51 from 15 to 10 minutes or to restore Route 50E to 30 minute headways.

- Routes 73 and 74 - Rancho Cordova. With Route 73 - White Rock being eliminated, the total number of trips on these two routes is down approximately 50 percent; however, ridership decreased only 26 percent. Passengers per hour has increased from 10.8 (very low) to 20.0 (reasonable).
- Routes 93, 102, and 103. Route 93 provides local service on Hillsdale and Auburn Boulevards, with Routes 102 and 103 providing additional peak-only service along the same corridor. Despite the elimination of Route 102 and three evening trips on Route 93, combined ridership for the group has increased 10 percent, from 1,140 to 1,250, an increase of 10 percent. Combined passengers per hour has increased from 19.9 to 23.9. Some of this increase may be from former riders of other nearby routes that were eliminated, including Routes 94, 95, 100, 106, and 107, which had 290 daily boardings.

### Fare Revenue and Average Fare

Through the first six months of FY 2011, total ridership decreased 17 percent compared to last year. Fare revenue, however, has decreased only 9 percent. As fare revenue has outperformed ridership, the systemwide average fare has increased from \$0.93 to \$1.11.<sup>19</sup>

The September 2009 fare increase did not affect the price of daily passes, monthly passes, or special passes, which were used by over 75 percent of RT's boarding passengers prior to the fare increase. Consequently, the \$0.25 increase in the base fare should have affected only 25 percent of RT's passengers. The estimated impact of this fare increase, had it been implemented alone, without any other changes, would have been a 2-3 percent increase in total fare revenue.

Differences in fare payment by time of day and mode have also contributed to better than expected fare revenue. Past studies have shown that off-peak light rail service yields 20 percent less fare revenue per passenger than the systemwide average (as shown in Table 5), and (as noted in Table 3) this is where the majority of ridership loss has occurred (80 percent of weekday light rail ridership loss has been from off-peak riders).

Table 5  
Average Fare by Time/Day and Mode

	Peak	Off-Peak	Weekend
Bus	\$1.10	\$1.04	\$1.06
Light Rail	\$1.30	\$0.95	\$0.88

Average fare splits in Table 5 are estimates based on FY 2010 Fare Survey and \$1.11 actual systemwide average fare for FY 2011 year-to-date. Significant variation in average fare exists by bus route but is not shown here.

<sup>19</sup> Average fare is total fare revenue divided by total boarding passengers. Actual average fare was \$0.93 for FY 2010. Actual average fare for July through December 2010 is \$1.11.

### **Trends in Ticket and Pass Sales**

In FY 2010, over two thirds of RT's \$30.6 million in fare revenue came from prepaid sales. Over \$8.5 million worth of prepaid sales were to state employees, many of whom purchase media at their office from an on-site vendor. The elimination of Furlough Fridays may result in increased sales to state workers.

One of the most widely-used discount passes on the RT system is the Los Rios pass, which allows students attending Los Rios community colleges to ride RT buses and light rail trains for free for an entire semester. All students pay a mandatory fee of \$2.50 to \$15.00 to fund the program. Over 30,000 of 95,000 eligible students typically use the pass each semester. Ridership on the RT system using the Los Rios pass has been growing steadily and was over 4.0 million boardings in FY 2010, over 12 percent of all ridership. The pass is also honored by Yolobus, eTran, and Folsom Stage Line. Los Rios pays RT approximately \$1 million annually for the pass program per an agreement that is in place for the remainder of 2011.

A similar pass program exists for students attending California State University, Sacramento (CSUS), although it is not as widely-used. All CSUS students pay a mandatory fee of \$17.50 to fund the program. Approximately 10,000 of 30,000 eligible students use the unlimited ride pass and in FY 2010, RT provided approximately 1 million rides to passholders, almost 3 percent of total boardings. The CSUS pass is also honored by Yolobus, eTran, and Folsom Stage Line. CSUS is charged a fixed rate per boarding for the CSUS pass. In FY 2010, CSUS paid RT over \$525,000. Annual payments from CSUS to RT are scheduled to increase gradually to \$1.3 million by 2013.

DHA has a special pass program that provides free unlimited rides to persons on general assistance. Monthly stickers are purchased from RT by DHA for \$25 each. In FY 2010, DHA paid RT over \$2 million. DHA will continue to pay RT over \$2 million annually for the next three years due to guaranteed minimum purchases. In FY 2010, RT provided an estimated 2.2 million rides to DHA passholders.

The Sacramento County Department of Health and Human Services also purchased over \$1 million worth of media in FY 2010, most of which is distributed to clients. There is no agreement guaranteeing minimum purchases, so it is unknown if sales will continue at the same pace.

---

## Data Collection and Accuracy

RT's ridership data comes from a variety of sources, many of which are electronic, such as Automatic Passenger Counters (APCs) and farebox data. Manual passenger counts are still necessary, however, to validate the electronic data, to conform with the FTA's approved procedure for annual reporting, and, on light rail, where there are no other sources of ridership data.

Prior to April 2010, RT employed a staff of eight part-time route checkers to conduct passenger counts; however, all eight route checkers were laid off in April 2010. Passenger counting is now handled by staff, with employees from throughout RT signing up for periodic route checks.

While this system has been successful in meeting the minimum requirements for the FTA's annual survey, and there have also been some indirect benefits from familiarizing office staff with the system, the total number of passenger counts being conducted per month has decreased. This has increased fluctuation in monthly light rail statistics, where manual counts are the only source of ridership data.<sup>20</sup>

This situation is being addressed in the following ways:

- To rebuild the baseline ridership statistics for both lines, including Saturday and Sunday/Holiday service, operators and other employees on restricted duty for medical reasons have been trained for route checking and assigned to full-day passenger counts.
- Several methodological improvements have been made to yield more meaningful ridership statistics from less data and reduce monthly fluctuation.<sup>21</sup>
- Staff is seeking Board approval to open four part-time route checker positions to provide a more stable work force, more total hours of availability, and reduce time spent by higher-paid office staff on route checking.
- RT's Finance and IT departments recently improved the Fare Vending Machine (FVM) reporting system, adding several reports on ticket sales and validations which can be used to supplement and cross-check ridership estimates.

---

<sup>20</sup> On light rail, the primary objective of RT's passenger counting program has always been to satisfy annual reporting requirements to the FTA, which is why monthly statistics on light rail have always had significant fluctuation. With the reduced number of surveys, this fluctuation has increased.

<sup>21</sup> These new methods are currently in use for informal analyses. No changes have yet been made to the official methodology used for monthly reporting.

---



### **Data Collection and Accuracy (cont.)**

APCs have been in use for monthly bus statistics since July 2009. The use of APC data has significantly reduced monthly fluctuation compared to the prior methodology, which used farebox data;<sup>22</sup> however, the APC methodology is still in development, and is subject to occasional technical problems.

The regional Connect Card project, which is projected to be complete in 2012, will provide an additional source of ridership data on light rail, as well as on the bus system. The Connect Card will replace all tickets and passes and, therefore, will provide boarding and alighting data for 85 percent of RT's boarding passengers.<sup>23</sup>

### **Conclusions/Next Steps**

The next step will be to incorporate this analysis and other inputs into the COA, which, at the time of this report's preparation, was scheduled to have begun in early February. Preliminary numbers for the FY 2012 operating budget will be available around April and will determine how much service can be restored and when. While there are still many uncertainties, particularly the outcome of labor negotiations with the ATU and IBEW, expectations are for a balanced budget and sufficient funds to implement service recovery, possibly beginning as early as FY 2012.

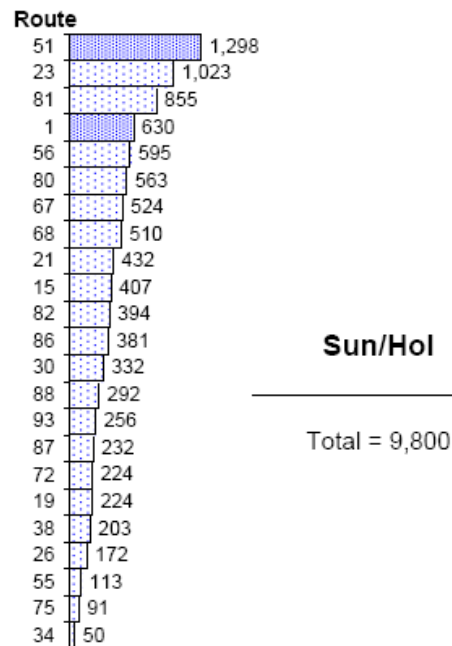
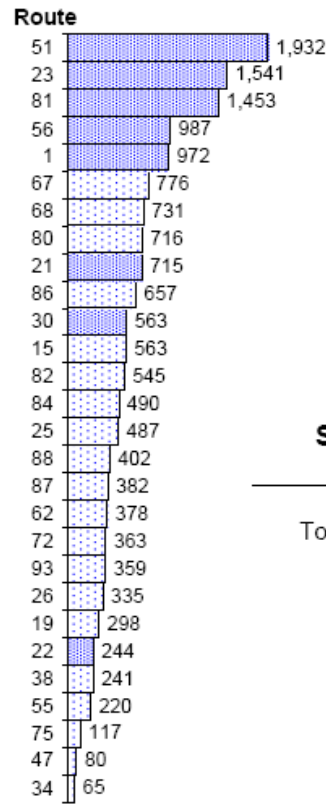
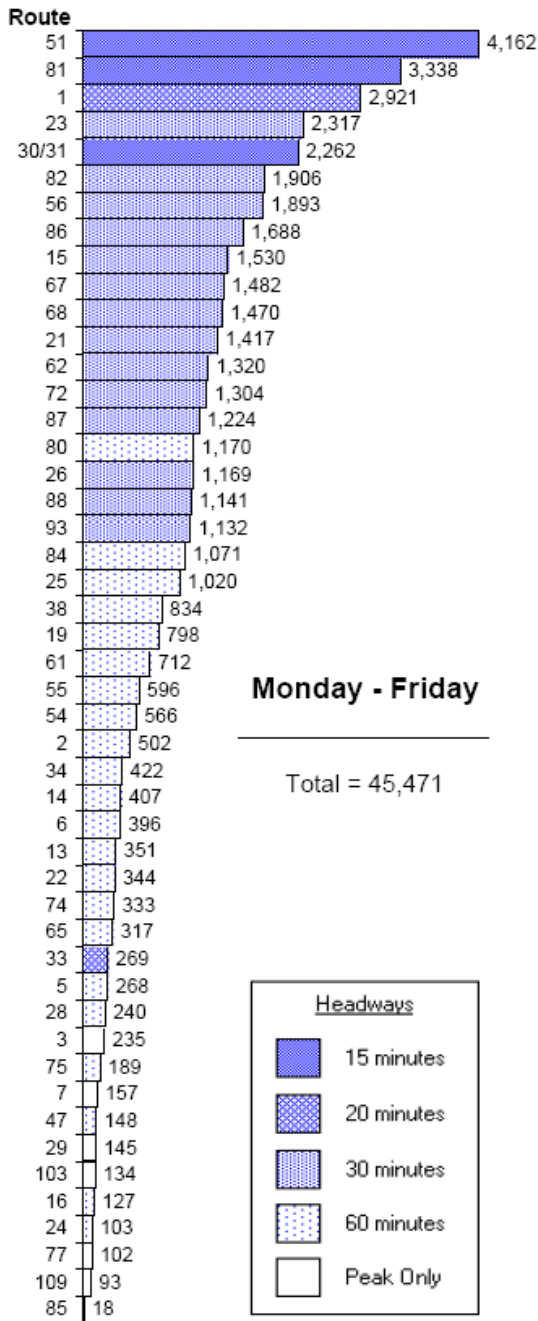
---

<sup>22</sup> Farebox ridership data is subject to operator error.

<sup>23</sup> The Connect Card will not replace the single ride cash fare, which is currently used by 15 percent of all boarding passengers.

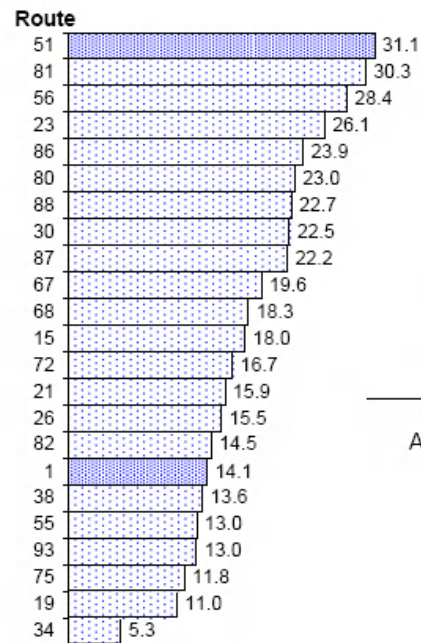
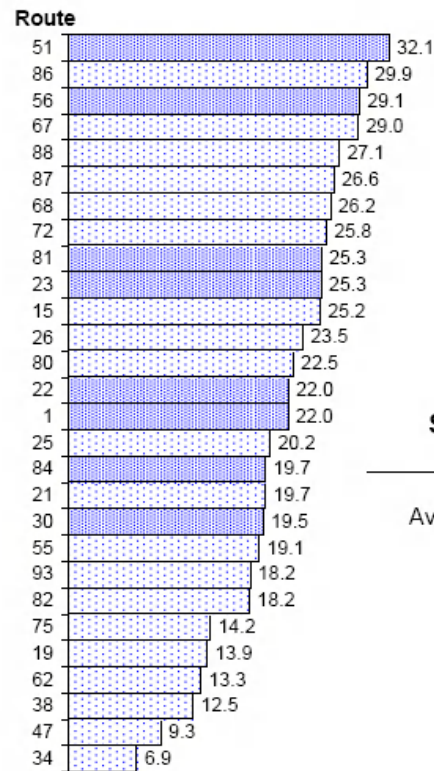
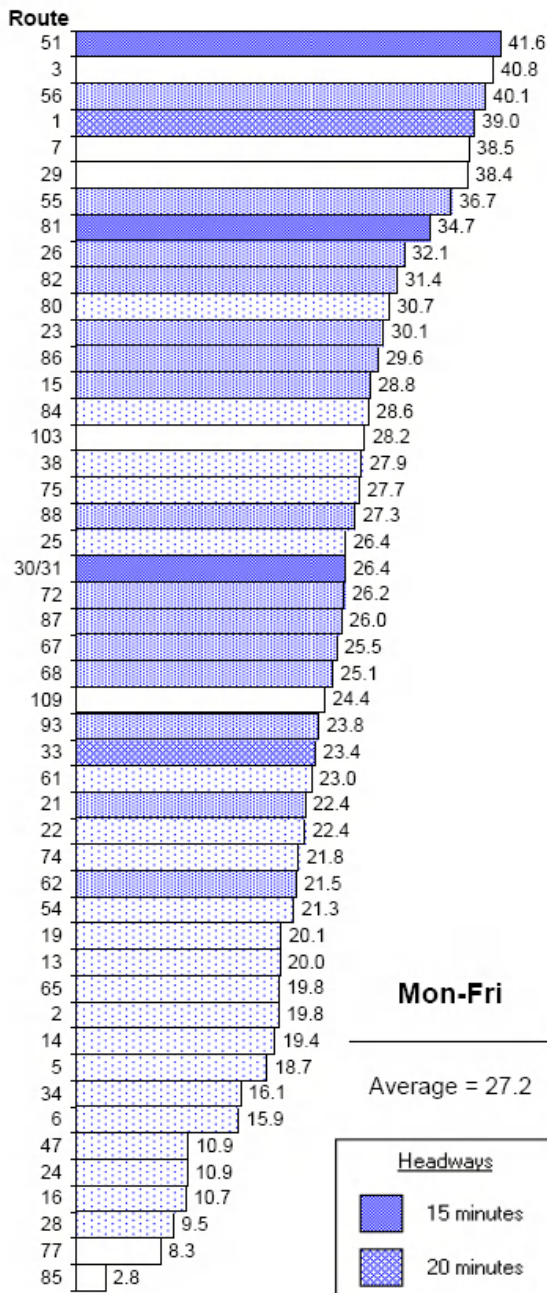
---

**Average Daily Boardings**



Source: APC data from 6/20/10 - 11/30/10

**Passengers Per Hour**



Source:  
APC data from 6/20/10 - 11/30/10

**Average Weekday Ridership  
2009 and 2010**

Route	Jul-Oct 2009				Jul-Oct 2010				Percent Change		
	Boarding Psgrs	Revenue Hours	Psgrs Per Hour	Daily Trips	Boarding Psgrs	Revenue Hours	Psgrs Per Hour	Daily Trips	Boarding Psgrs	Revenue Hours	Daily Trips
1	3,031	103.4	29.3	115	2,888	74.9	38.6	91	-5%	-28%	-21%
2	648	37.2	17.4	43	492	25.3	19.4	26	-24%	-32%	-40%
3	211	5.8	36.7	8	236	5.8	41.0	8	12%	0%	0%
4	220	13.4	16.5	27							
5	273	14.3	19.1	29	274	14.3	19.1	29	0%	0%	0%
6	531	37.8	14.0	44	409	24.9	16.4	27	-23%	-34%	-39%
7	172	4.1	42.1	6	159	4.1	38.9	6	-8%	0%	0%
8	514	30.1	17.1	52							
9	124	12.1	10.2	21							
10	96	12.5	7.7	20							
11	657	28.9	22.7	35	622	26.9	23.2	35	-5%	-7%	0%
13	345	19.1	18.0	33	359	17.6	20.4	31	4%	-8%	-6%
14	467	22.7	20.6	32	404	21.0	19.3	30	-13%	-8%	-6%
15	1,585	54.7	29.0	59	1,540	53.1	29.0	56	-3%	-3%	-5%
16	181	11.4	15.9	23	127	11.2	11.4	23	-30%	-2%	0%
18	96	11.9	8.0	25							
19	787	39.8	19.8	28	796	39.8	20.0	28	1%	0%	0%
20	233	16.6	14.1	27							
21	1,421	66.8	21.3	71	1,410	63.3	22.3	66	-1%	-5%	-7%
22	318	15.3	20.8	24	338	15.4	22.0	24	6%	1%	0%
23	2,216	73.9	30.0	63	2,298	76.3	30.1	60	4%	3%	-5%
24	131	9.7	13.6	20	106	9.5	11.2	20	-19%	-2%	0%
25	931	37.9	24.6	30	1,022	38.7	26.4	29	10%	2%	-3%
26	1,218	36.7	33.2	52	1,179	36.4	32.4	52	-3%	-1%	0%
28	548	32.8	16.7	37	236	24.1	9.8	33	-57%	-26%	-11%
29	133	3.8	35.2	4	145	3.8	38.5	4	9%	0%	0%
30	1,803	69.3	26.0	94	1,752	67.0	26.2	90	-3%	-3%	-4%
31	497	18.4	27.0	29	523	18.9	27.7	29	5%	3%	0%
33	536	11.5	46.7	60	269	11.5	23.4	60	-50%	0%	0%
34	670	42.2	15.9	56	410	26.2	15.6	27	-39%	-38%	-52%

**Average Weekday Ridership  
2009 and 2010**

Route	Jul-Oct 2009				Jul-Oct 2010				Percent Change		
	Boarding Psgrs	Revenue Hours	Psgrs Per Hour	Daily Trips	Boarding Psgrs	Revenue Hours	Psgrs Per Hour	Daily Trips	Boarding Psgrs	Revenue Hours	Daily Trips
36	263	24.5	10.7	44							
37	76	11.5	6.6	24							
38	1,070	49.5	21.6	58	848	29.9	28.4	31	-21%	-40%	-47%
47	224	13.5	16.5	24	148	13.5	10.9	24	-34%	0%	0%
50	629	41.9	15.0	52							
51	4,029	106.8	37.7	119	4,196	100.1	41.9	112	4%	-6%	-6%
54	623	25.5	24.4	31	565	25.5	22.1	31	-9%	0%	0%
55	592	16.6	35.7	27	624	16.2	38.4	26	5%	-2%	-4%
56	2,028	50.3	40.3	67	1,906	47.3	40.3	61	-6%	-6%	-9%
61	848	44.5	19.1	50	705	30.9	22.8	32	-17%	-30%	-36%
62	1,377	63.1	21.8	64	1,319	61.3	21.5	60	-4%	-3%	-6%
63	190	23.2	8.2	22							
65	322	16.0	20.2	28	324	16.0	20.3	28	1%	0%	0%
67	1,462	62.1	23.5	58	1,519	58.1	26.1	54	4%	-6%	-7%
68	1,502	60.6	24.8	57	1,493	58.6	25.5	55	-1%	-3%	-4%
72	1,236	43.1	28.7	59	1,225	47.1	26.0	57	-1%	9%	-3%
73	196	20.6	9.5	28							
74	255	21.1	12.1	29	334	16.7	20.0	29	31%	-21%	0%
75	181	13.6	13.3	14	186	6.8	27.4	14	3%	-50%	0%
77	76	11.9	6.4	50	102	12.3	8.3	50	34%	4%	0%
80	1,160	41.1	28.2	32	1,188	38.2	31.1	30	2%	-7%	-6%
81	3,301	99.4	33.2	119	3,300	94.2	35.0	113	0%	-5%	-5%
82	1,846	62.3	29.6	58	1,806	60.7	29.8	56	-2%	-3%	-3%
83	302	23.8	12.7	44							
84	1,014	37.6	27.0	28	1,078	37.5	28.8	28	6%	0%	0%
85	15	6.4	2.4	14	18	6.4	2.8	14	18%	0%	0%
86	1,885	57.8	32.6	62	1,723	57.1	30.2	61	-9%	-1%	-2%
87	1,188	43.5	27.3	60	1,229	47.1	26.1	58	3%	8%	-3%
88	1,189	43.1	27.6	59	1,150	41.8	27.5	57	-3%	-3%	-3%
89	24	1.2	20.3	4							

**Average Weekday Ridership  
2009 and 2010**

Route	Jul-Oct 2009				Jul-Oct 2010				Percent Change		
	Boarding Psgrs	Revenue Hours	Psgrs Per Hour	Daily Trips	Boarding Psgrs	Revenue Hours	Psgrs Per Hour	Daily Trips	Boarding Psgrs	Revenue Hours	Daily Trips
93	1,002	50.7	19.8	57	1,118	47.7	23.5	54	12%	-6%	-5%
94	61	11.7	5.2	24							
95	64	11.8	5.4	24							
100	81	3.9	20.7	7							
101	42	2.2	19.2	4							
102	57	2.8	20.1	8							
103	82	3.7	22.2	8	134	4.8	28.2	8	63%	28%	0%
104	51	2.7	18.6	6							
106	39	2.3	17.1	4							
107	37	2.1	17.5	4							
109	94	3.7	25.1	4	94	3.8	25.1	4	1%	1%	0%
140	83	5.7	14.6	21							
141	198	34.1	5.8	63							
142	156	17.5	8.9	37							

Routes 36, 63, 83, 141 and 142 all had significant reductions in service in September 2009. The revenue hours and daily trips shown for these routes in the Jul-Oct 2009 columns reflect levels of service prior to these service reductions.